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ABSTRACT

One significant difference between competency-based teacher education (CBTE) and traditional teacher education is the use of the teacher educator. In the CBTE approach the teacher educator's role is that of a learning manager, guide, and resource person, while the conventional approach utilizes the instructor as a disseminator of information. Another major distinction is the criterion-referenced mode evaluation approach in CBTE versus traditional normative-referenced measures. The research and development project at the Center for Vocational and Technical Education at Ohio State University has identified and validated 384 professional competencies needed by vocational/technical teachers in all the traditional vocational service areas at all levels and has developed over 100 modules for group or individual instruction to facilitate mastery of these competencies. Florida State University (FSU) has participated in the advanced testing of the modules. Also, various Florida vocational service areas are formulating State objectives. Project ACTIVE (Attaining Competencies for Teaching in Vocational Education) is being conducted at FSU for use at preservice/inservice levels; the Trade and Industrial CBTE is a pilot program within the project. Sixty-five competencies proposed for the Florida Competency-Based Trade and Industrial Teacher Education program and selected references are appended. (EA)

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COMPETENCY-BASED TEACHER EDUCATION FOR VOCATIONAL TEACHERS

by

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COMPETENCY-BASED TEACHER EDUCATION
FOR VOCATIONAL TEACHERS

Overview

Of the many trends and innovations in the field of Vocational Teacher Education, some are more significant than others. Competency-Based Teacher Education (CBTE) is one of these trends. Putting CBTE in its proper perspective, some of the other significant trends include: (1) certification of vocational teachers -- not by completion of courses, but by demonstration of teaching competencies; (2) the emergence of the teacher center act; and (3) the increased emphasis on the inservice education of vocational teachers.

The term "Competency-Based Teacher Education" or perhaps Performance-Based Teacher Education appears many times in literature, and is mentioned in professional meetings and such. The terms are used synonymously, but we prefer the term "Competency-Based." The term Competency-Based not only implies actual performance by the teacher, but it also implies a minimum acceptable level of competence in that performance. The CBTE approach focuses not on the occupational or technical competencies, but rather on teaching competencies needed by the successful teacher. These are referred to as professional competencies.

Definitions vary, but there seems to be three very basic characteristics of a truly competency-based program. (1) Such a program identifies competencies important to teachers. By

important, we mean those knowledges, skills, and attitudes which promote learning in students. After these competencies have been identified, a CBTE program must (2) provide learning activities which focus entirely on the mastery of these competencies. Finally, (3) assessment of how well these competencies have been attained is carried out in a real teaching situation.

There is nothing really new about the concept of Competency-Based Education. Vocational teachers have for years used this approach to produce occupationally competent graduates. They have identified skills, used behavioral objectives, learning modules, and other elements associated with competency-based education. The newness is that we are now applying the competency-based approach to the occupation of teaching.

There has been a need for a different approach to preparing vocational teachers, because there are some basic shortcomings in the traditional course-oriented approach. Competency-Based Teacher Education seems to fill these voids.

1. There is a need for a teacher training program which is built entirely upon the actual professional needs of teachers, rather than unrelated theory and other informational aspects.

2. The need exists for an instructional program that will meet the individual needs of teachers.

3. A need for evaluation devices and procedures which focus on the teachers' performance. That is, what the teacher can do rather than what the teacher knows.

Some of the advantages of the CBTE approach are evident when it is compared with the traditional approach:

Traditional Program	VS.	C.B.T.E. Program
Content-based		Competency-based
Time-based		Performance-based
Group paced		Individually paced
Classroom based		Field-based
Instructors		Resource Persons
Norm-referenced		Criterion-referenced

One of the most significant differences between these two approaches is the use of the teacher educator. The conventional approach utilizes the instructor as a disseminator of information, but in the CBTE approach, the teacher educator's role shifts to that of a learning manager, guide, and resource person. He makes learners aware of the objectives of the program, and than makes various learning experiences available. The instructor and other resource persons also participate in the assessment of the learner's work.

A final major distinction between the two approaches is in the evaluation of learners. Most traditional programs still use the normative-referenced measures, in which students compete against each other; however, the CBTE approach is based on a criterion-referenced mode. Expected levels of competence are identified and made public.

The importance of valid, pre-specified competencies cannot be emphasized too heavily. The attitudes, skills and knowledge needed by the teacher serve as the foundation for the instructional program. These competencies do not come from a textbook, but are based upon the actual role of the teacher. We examine what a successful teacher feels, knows, and does. Once the competencies are identified, they are stated so that assessment or mastery of each competency can be determined by

observation. Then, these competencies, which have been derived from the actual teaching role and stated in behavioral terms, are made public in advance.

Regarding the assessment aspect of CBTE, there are some pertinent questions. How does one propose to actually evaluate competency attainment? In response, the final assessment is carried out in an actual teaching situation whenever possible. Carrying competencies only to the simulation stage may be better than nothing at all, but this situation lacks the realism of an actual classroom with real students. The assessment of the teacher trainee's competency uses performance in the classroom as the primary indicator of mastery, rather than what he can recall on a test or exam. It is also important to consider evidence of the student's knowledge which supports the particular competency. This assessment procedure must be objective as possible.

The next logical question might be: What specific evidence or indicators are used to determine whether a competency has been mastered? Assessment criteria utilized are derived from the competencies themselves. They state conditions under which the teacher must perform and what the expected level of performance is for successful mastery. These criteria are made public in advance along with the competency statements themselves.

Florida's Commitment

The state of Florida is actively involved in Competency-Based Teacher Education. The various vocational service areas in the Division of Vocational-Technical Education of the Florida

State-Department of Education have begun exploring the CBTE concept. The Agricultural Education Section has formulated a state objective for CBTE involvement: to prepare quality teachers and expose them to teaching situations through CBTE. The Section has identified 20 major professional competencies needed by agricultural education teachers in Florida.

The Vocational Business Education Section has established this statewide objective: to identify the areas in which Business Education teachers need to be competent and to provide the teacher with meaningful CBTE experiences. Sixty-one competencies have been identified for Business Education teachers. The Home Economics Section has concentrated their CBTE efforts on this ojective: to identify essential student competencies and support them with teacher competencies. Activities are underway to identify these important student competencies.

The Florida Legislature supports CBTE by allowing for both approaches -- the Competency-Based approach as well as the traditional one. A conference is held each year by the Florida Vocational Association (FVA), and in 1975, the entire FVA Conference was devoted to competency-based education at all levels. Mr. Joe Mills, Director of Vocational Education in the state of Florida, fully supports CBTE and has stated that "...the Division is committed to move totally into a competency-based approach ..."

The Ohio Project

Florida State University has participated in the advanced testing of modules developed by the Center for Vocational and

Technical Education at the Ohio State University. The Center is a research and development agency specializing in addressing problems in Vocational Education. This CBTE R&D project was begun in 1967, and is scheduled for completion by 1976. The project has been funded primarily by the National Institute for Education (NIE). Briefly, this project identified and validated 384 professional competencies needed by vocational and technical teachers in all the traditional vocational service areas at all levels.

The first step in the competency identification process was a task analysis of vocational teachers and teacher coordinators. Introspection and interview techniques were used to identify a preliminary list of competencies. These preliminary competencies were then reviewed and validated by a panel of experts composed of teacher educators, state supervisors and master teachers representing seven vocational service areas in 19 states. Ninety-seven percent of the competencies were found to be common across all service areas, and very few differences were found between secondary and post-secondary levels. Next, a critical incident study involving 700 teachers was conducted. These teachers were asked to identify specific incidents that were critical to successful teaching. A final list of 384 professional competencies was identified in the first phase of the project.

The Center developed over 100 self-instructional modules to facilitate mastery of these competencies. The Center selected three universities to test these modules -- Florida State

University, Colorado State University, and Rutgers University. The Center is presently conducting a National Institute for CBTE under a contract with NIE. Activities began in 1975 with the selection of ten cooperating institutions of higher learning, one from each of the U.S.O.E. ten geographic regions. At FSU, over 150 modules have been tested. The testing involves inservice as well as preservice people, and has been used in group instruction along with individualized instruction. All vocational subject areas have been involved.

Approximately 100 modules were developed in these ten categories:

1. Program planning, development, and evaluation
2. Instruction/planning
3. Instruction/execution
4. Instruction/evaluation
5. Management
6. Guidance
7. School/community relations
8. Student vocational organization
9. Profesional role and development
10. Coordination

The process of writing these modules was a very lengthy, cooperative venture involving teacher educators, state department people, teachers, administrators, and supervisors. Although this development and review was very time consuming and quite costly, the Center felt that the modules produced would be of high quality.

In summation, the modules developed by the Center focus on one or more competencies, and provide for group or individual instruction. They are flexible, and specific materials for a given vocational service area may be used. Each module culminates with evaluation in a real teaching situation. Finally,

the design of the modules allows the program to be tailored to the individual needs of teacher trainees.

Some problems have been encountered in testing the modules, as would be expected in any new endeavor. A major problem is how to fit the competency-based approach into the traditional university system based on courses completed in quarter hours. Also, some faculty members seem somewhat reluctant to become totally involved in the Competency-Based approach. Because there is a significant shift in the role played by the teacher educator, he/she now becomes a manager, resource person, and a guide -- not just a lecturer. Another problem is the difficulty in assessing all participants in a real teaching situation. It is easy for inservice teachers to use their current classes, but it may be difficult to find a real teaching situation for preservice teachers. Resource persons who are well-qualified and who will take the time and effort needed to assist the project are scarce. Finally, there has been some difficulty with some students in this non-traditional approach.

Competency-Based Teacher Education for Industrial Education Teachers: Phase I

Phase I of a CBTE project for Trade and Industrial teachers was completed in the summer of 1975. This phase focused on identifying entry-level competencies. A program is needed which allows teachers more flexibility in terms of acquiring basic teaching skills. In many cases, the T&I teacher may have to take whatever college courses are offered in his geographical

area, regardless of his immediate needs. This CBTE program will eventually serve T&I teachers as one answer to this dilemma.

Although Florida State University was the coordinating institution in this industrial education competency-based project, it was a total statewide cooperative effort. The project included state department personnel, teacher educators, industrial teachers, supervisors, and administrators. All the state's universities which are approved to offer teacher education programs in trade and industrial education were involved. These were Florida State University, Florida Agricultural and Mechanical University, Florida Technological University, Florida International University, University of North Florida, University of South Florida, and the University of West Florida.

The project identified and validated minimum entry level professional competencies, along with specific assessment content. The project also reviewed many CBTE curricular materials available throughout the state and nation, and identified those materials suitable for Florida's industrial education teachers.

These were the key features of Phase I of the CBTE Trade and Industrial project:

1. Brought together research on CBTE from sources across Florida and the nation.

2. Implemented a competency-based certification program on a statewide basis rather than by institution or district.

3. Used an advisory panel made up of representatives from the State University System, State Department of Education (VTA), teacher certification department, and school districts.

4. Validated competencies and assessment criteria through workshop attended by industrial teacher educators, administrators, and teachers from Florida.

Competency-Based Teacher Education for Industrial Education Teachers: Phase II

Phase II of the trade and industrial teacher certification project is currently in progress, and is a continuation of Phase I. The focus of Phase II is to:

1. Plan and organize a competency-based preservice industrial education teacher certification program.
2. Plan a competency-based inservice program of staff development for industrial education teachers.
3. Establish a university level competency-based teacher education program.
4. Determine alternatives for funding competency-based teacher education.

Competency-Based Vocational Education Program at Florida State University

Project ACTIVE (Attaining Competencies for Teaching in Vocational Education) is being conducted by the Vocational Education Program at FSU, under the sponsorship of the Division of Vocational-Technical Education, Florida State Department of Education. The goal of ACTIVE is to identify professional competencies important to vocational teachers, administrators, supervisors, researchers and other personnel, and to develop a competency-based program to prepare these professionals at the preservice and inservice levels.

ACTIVE was begun in September of 1975 and initial activities have revolved around identifying and validating professional

competencies from each area within the project. Each teaching, leadership, and special needs area is being coordinated by a team consisting of vocational education faculty members, graduate research assistants, and EPDA awardees. Activities of these teams are coordinated by a project coordinator under the direction of the project director.

Each team completed a review of the literature to identify a preliminary list of competencies for each area. This preliminary list was submitted to a panel for examination. These preliminary lists were revised and printed as a questionnaire and mailed to a sample of practitioners in the field. Respondents were asked to rate each competency as to importance.

A preliminary analysis of data has been completed with a more detailed analysis to follow. Data will be analyzed to determine competencies important to each target group within the project, and to determine common and unique competencies.

After competencies are identified and classified, specific assessment criteria will be identified and validated for each competency. Field-based assessment techniques and instruments will then be developed. Competency-based learning materials and activities will be developed to help current and prospective teachers and related personnel master competencies. Finally, this program will be implemented in the traditional university setting, and a program evaluation system will be developed and utilized.

The Trade and Industrial Competency-Based Teacher Education Program at Florida State University is the pilot program

within this project. The categories and competencies included in this program are found in Appendix A.

Dallas Workshop

At the brief workshop that followed the mediated presentation, the participants rated each competency in the T&I program by the effort required of a typical beginning T&I teacher to attain each. The participants were then asked to identify those competencies that they felt were needed immediately by a beginning T&I teacher. The Dallas workshop provided a highly regarded national input into the refinement of these competencies.

Summary

The national involvment in CBTE has been somewhat surprising. Over thirty states report either legislative/administrative support for CBTE, or are studying the concept seriously. Approximately 100 teacher education institutions report that they are using a total CBTE program or alternate programs. At least 20 national consortia, institutes, centers or other groups have a primary or major function in the promotion of the CBTE movement. Appearing monthly are hundreds of articles, position papers, and monographs dealing specifically with CBTE. The national involvement has been positive regarding CBTE, but whether it will survive should perhaps be directed towards implementing the CBTE concept and making it work.

APPENDIX A

A total of sixty-five competencies are proposed for the Florida Competency-Based Trade and Industrial Teacher Education Program. Thirty-six preservice competencies, designated by an asterisk (*), were validated in Phase I. The learner will attain these preservice competencies to the awareness or practice level prior to entry into the classroom/laboratory. The twenty-nine inservice competencies and criteria are presently being validated. The number of inservice competencies may change depending upon the results of the validation process. Except for the Orientation Category, mastery of all competencies will be assessed in a real teaching situation. The list does not include criteria statements.

Proposed Florida Competency-Based Teacher Education Program for Trade and Industrial Education

A. Orientation to Vocational Teaching - designed to give the instructor a brief overview of vocational teaching.

*1. Aware of the purpose of this teacher education program.

*2. Aware of the purpose and principles of Vocational Education.

*3. Aware of the purpose and scope of Trade and Industrial Education.

*4. Aware of teacher responsibilities.

*5. Aware of the steps in planning the instructor's work.

*6. Aware of district and local school policy and organizational structure.

*7. Aware of the student vocational organization.

*8. Aware of opportunities for professional growth, i.e. professional organizations, etc.

B. Preparation for Instruction - principles and techniques of planning and organizing instructional materials and preparing and motivating students to learn.

1. Analyze an occupation.

*2. Identify instructional objectives.

3. Plan a unit of instruction.

*4. Write a lesson plan.

*5. Select an appropriate teaching method.

6. Select and obtain instructional materials.

7. Prepare instructional materials.

8. Develop course of study.

C. Presentation of Instruction - principles and techniques for helping students master instructional objectives.

*1. Present a manipulative lesson.

*2. Present a related lesson.

*3. Employ oral questioning techniques.

*4. Present information with illustrated talk.

*5. Conduct group discussions.

*6. Present information with chalkboard.

*7. Present information with overhead projector.

*8. Present information using models/real objects.

9. Present information with films.

10. Present information with filmstrips/slides.

11. Illustrate with bulletin boards and exhibits.

12. Individualize instruction.

13. Conduct field trips.

14. Utilize resource person.

15. Employ brainstorming techniques.

16. Employ team teaching.

D. Application of Learning - principles and techniques for helping students apply what they have learned.

*1. Direct problem-solving activities.

2. Direct shop/laboratory experience.

3. Direct student study.

4. Direct students in instructing other students.

5. Employ technique of simulation.

6. Employ technique of role playing.

E. Evaluation - principles and techniques for evaluating students' mastery of instructional objectives.

*1. Assess student skill in shop/laboratory.

*2. Assess student knowledge in classroom.

3. Assess important student attitudes.

*4. Determine student grades.

*5. Conduct follow-up study to evaluate program effectiveness.

6. Evaluate instructional effectiveness.

F. Classroom/Laboratory Management - principles and techniques of managing time, materials, equipment, supplies, etc. for safe and effective mastery of instructional objectives.

*1. Organize and maintain the vocational classroom.

*2. Organize and maintain the vocational laboratory.

*3. Establish and maintain a filing system.

*4. Establish and maintain a student progress record.

*5. Provide for the safety/first-aid needs of vocational students.

*6. Manage equipment and supplies.

7. Project instructional resource needs.

8. Arrange for expanding facilities.

G. Human Relations - principles and techniques for effectively communicating with students, parents, colleagues, administration, community and others with whom the instructor must deal.

*1. Communicate with students, other teachers, administrators, laymen.

*2. Determine needs and interests of students.

*3. Relate to students to facilitate learning.

*4. Assist students in developing self-discipline.

*5. Employ reinforcement techniques in interpersonal relations.

*6. Demonstrate positive interpersonal relations within the school system.

7. Maintain occupational advisory committee.

8. Sponsor the student vocational organization.

9. Help students secure job or further education.

10. Utilize student personnel services or outside agencies to meet student needs.

H. Professional Role - designed to help the teacher develop a professional philosophy and the skills needed to increase professional and occupational competencies.

1. Express and display a personal philosophy consistent with the principles of vocational education.

2. Utilize opportunities for professional growth, i.e., professional organizations, etc.

3. Develop a plan to keep up-to-date in the occupational specialty.

SELECTED REFERENCES

American Association of Colleges for Teacher Education. PBTE Module Series. Washington, D.C.: Author.

American Home Economics Association. Competency-Based Professional Education in Home Economics. Washington, D.C.: Author, 1974.

Andrews, T. E. (Ed.) PBTE. Performance-Based Teacher Education Newsletters. New York: Multi-State Consortium on Performance-Based Teacher Education.

Andreyka, R. E. Competency-Based Teacher Education for Industrial Education Teachers - Phase I: Competency and Criteria Identification and Validation for Pre-Service Education. Florida: Florida State University, 1975.

Appelgate, W. K. & Weaver, M. A. Competency-Based Vocational Teacher Education - Report of a Region V USOE Conference. Illinois: Southern Illinois University, 1975.

Burden, J. L. Three Views of Competency-Based Teacher Education: I Theory. Indiana: Phi Delta Kappa Educational Foundation, 1974.

The Center for Vocational Education. Listing of Professional Vocational Teacher Education Modules. Ohio: The Ohio State University, 1974.

Clarke, D. and others. Competency-Based Teacher Education: An Annotated Bibliography. Georgia: University of Georgia, 1974.

Cook, F. S. and Richey, R. C. Two VAE Systems Models: A Model for a Competency-Based Instructional System: The VAE Accountability Model. Competency-Based Teacher Education Series No. 2. Michigan: Wayne State University, 1972.

Cotrell, C. J. and others. Model Curricula for Vocational and Technical Teacher Education: Report No. 5, General Objectives, Set II. Bethesda, MD: ERIC Document Reproduction Service, ED 069 845, 1972.

Dade County Public Schools. Individualized Teacher Education B-2 Modules. Florida: Author.

Dade County Public Schools. Performance-Based Vocational Teacher Training Modules - PB Series. Florida: Author.

Dubois, M. and Others. Project VISE. Oregon: Oregon State University, 1971.

Florida State Department of Education. Florida Catalog of Competency-Based Teacher Training Materials. Florida: Author, 1973.

Florida State Department of Education. The Florida Catalog of Teacher Competencies. Florida: Author, 1973.

Grant, C. A. (Series Ed.) Teacher Corps Associates: Resources for CBTE. Wisconsin: University of Wisconsin, 1973.

Houston, W. R. (Ed.) Competency Assessment, Research and Evaluation. Washington, D.C.: American Association of Colleges for Teacher Education, 1974.

Houston, W. R. Resources for Performance-Based Education. New York: New York State Education Department, 1972.

Instructional Materials Laboratory, Trade and Industrial Education. (Ed.) Teacher Improvement Study Guides. Ohio: The Ohio State University.

Minnesota State Department of Education. Agriculture Education Modules - Teaching Methods in Agriculture. Minnesota: Author.

Pinellas County Schools. Performance Based Program for Teaching Vocational Teachers (TVT) Modules. Florida: Author.

Syracuse University. A Catalog of Concepts in the Pedagogical Domain of Teacher Education: A Multi-State Consortium in Performance-Based Teacher Education. New York: Syracuse University.

Temple University. Project VITAL. Pennsylvania: Temple University, 1973.

Terry, D. R., Thompson, R. L. & Evans, R. N. Competencies for Teachers - Vocational Education Shows the Way. Illinois: University of Illinois, 1972.

University of Missouri. A series of modules developed for coordinators of cooperative occupational education. Missouri: Author.

Vogler, D. E. & Patton, G. The Development and Implementation of Preservice & Inservice Occupational Teacher Education Programs Designed to Meet Certification & Baccalaureate Degree Requirements. Michigan: University of Michigan. 1972.

Weber State College. Weber Individualized Learning Kits (WILKIT). Utah: Author, 1972.